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EXAMINER

GREENE, JOSEPH L

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/821,105	Applicant(s) NISHIDA, YOSHIFUMI	
	Examiner JOSEPH L. GREENE	Art Unit 2451	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 August 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-39 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-39 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Claims 1 – 39 are currently pending in this application.
2. Claims 1, 13, 14, 26, and 27 are amended as filed on 08/28/2008.
3. Claims 2-5, 10, 18, 24, 34, and 37 are amended as filed on 08/28/2008.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. **Claims 1-6, 8-9, 13-14, 16, 18-21, and 27-35 are rejected under 35 U.S.C. 102(e) as being anticipated by Patel et al. (Patent No. US 6,731,600 B1), hereinafter Patel.**

6. With respect to claims 1, 14, and 27, Patel disclosed a system for controlling network congestion (column 13, 24-30), comprising: a device configured for communicating a sequence of packets over a network; means, within said device, for sending packets of a sequence in a back-to-back nature, wherein back-to-back packets

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are packets which are communicated, with no delay between the back of one packet and beginning of the next packet, one after another in a single burst within the sequence of packets (column 10, lines 2-12); and means, within said device, for explicitly indicating which packets within said sequence of packets are being sent back-to-back (column 10, lines 5-12), and for setting congestion control parameters for a sender in response to estimating network bandwidth based on the receipt, by a receiver, of explicit back-to-back packet indications (column 9, lines 61-64 and column 13, lines 24-30).

7. As for claims 2 and 28, Patel disclosed all of the limitations described in claims 1 and 27 (respectively), including a means for estimating the number of back-to-back packets received by the receiver from the sender and utilizing that information in conjunction with the explicit back-to-back packet indications (column 11, lines 1-4).

8. As for claims 3 and 29, Patel disclosed all of the limitations described in claims 1 and 28 (respectively), including wherein said estimating of back-to-back packets received from the sender comprises determining the amount of data within acknowledgement packets (ACKs) and/or determining whether transmissions were sent back-to-back in response to examining packet timestamps (column 10, lines 46-52, where this shows the timestamp limitation).

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9. As for claims 4 and 30, Patel disclosed all of the limitations described in claims 1 and 28 (respectively), including wherein said back-to-back estimates are utilized for checking the presence and validity of explicit back-to-back indications from the sender (column 10, lines 2-12, where Patel teaches the estimating and the acts carried out in the claimed limitations are intended use as seen in MPEP section 2106.II.c).

10. As for claims 5 and 31, Patel disclosed all of the limitations described in claims 1 and 28 (respectively), including wherein said back-to-back estimates are utilized when explicit back-to-back packet indications being received from the sender are either not available or appear erroneous (column 10, lines 2-12, where Patel teaches the estimating and the acts carried out in the claimed limitations are intended use as seen in MPEP section 2106.II.c).

11. As for claim 6, Patel disclosed all of the limitations described in claim 1, including wherein said setting of congestion control parameters for a sender regulates packet transmissions by said sender in response to available bandwidth between said sender and the receiver (column 9, lines 61-64 and column 13, lines 24-30).

12. As for claims 8, 16, and 32, Patel disclosed all of the limitations described in claims 1, 14, and 27 (respectively), including wherein said explicit back-to-back packet indications comprise modulating the setting of at least one header bit indicating back-to-back status of packets being transmitted (column 10, lines 14-17).

13. As for claims 9, 18, 33, and 34, Patel disclosed all of the limitations described in claims 1, 14, 27, and 33 (respectively), including wherein said explicit back-to-back packet indications comprise modulating the setting of the maximum segment size (MSS) for indicating back-to-back status of packets being transmitted (column 9, lines 60-64, where the maximum transmission unit is comprised of the maximum segment size).

14. As for claim 13, Patel disclosed all of the limitations described in claim 1, including wherein said means for explicitly indicating back-to-back packets and setting congestion control parameters comprises: a computer within said device (column 9, lines 61-64); programming within said computer for, explicitly marking packets, in the sender, according to whether or not they are being sent back-to-back without delays between successive packets (column 10, lines 5-12), estimating bandwidth based on receiving packets from the sender which are marked with back-to-back packet indications (column 9, lines 61-64), determining congestion control parameters in response to said congestion estimating, communicating said congestion control parameters to the sender (column 13, lines 24-30).

15. As for claim 19, Patel disclosed all of the limitations described in claim 18, including wherein the size of packets being sent is modulated in response to whether or not the packets are sent back-to-back (column 10, lines 2-12).

16. As for claim 20, Patel disclosed all of the limitations described in claim 19, including wherein said size of packets being sent is reduced from the maximum segment size value according to a predetermined number of bits for indicating whether the packets are being sent back-to-back (column 9, lines 60-64, where the maximum transmission unit is comprised of the maximum segment size).

17. As for claim 21, Patel disclosed all of the limitations described in claim 20, including wherein said predetermined number of bits can be 1,2 or 4 bits (column 10, lines 5-12, where this shows the one bit limitation).

18. As for claim 35, Patel disclosed all of the limitations described in claim 34, including wherein said predetermined number of bits can be 1, 2, or 4 bits (column 10, lines 5-12, where this shows the one bit limitation).

Claim Rejections - 35 USC § 103

19. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

20. Claims 7, 10-12, 15, 17, 22-24, 26, 36-39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Patel, in view of Zhang et al. (Pre-Grant Publication No. US 2005/0144303 A1), hereinafter Zhang.

21. As for claims 7, 15, and 17, Patel disclosed all of the limitations described in claims 1, 14, and 16 (respectively), but Patel did not explicitly state wherein said network operates according to a transport control protocol. However, Zhang did teach wherein said network operates according to a transport control protocol (0017, lines 1-3). Both the systems of Patel and Zhang are directed towards increasing efficiency of communication in a network and therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to combine the teachings of Patel to use TCP protocols, as taught by Zhang, in order to expand system usability as TCP is the standard protocol used for network communication.

22. As for claims 10, 24, 36, and 37, Patel disclosed all of the limitations described in claims 1, 14, 27, and 36 (respectively), but Patel did not explicitly state a means for the receiver to control packet train size in response to bandwidth estimations by changing a rate value *m* at which receipt acknowledgements (ACKs) are communicated from the receiver to said sender. However, Zhang did teach a means for the receiver to control packet train size in response to bandwidth estimations by changing a rate value *m* at which receipt acknowledgements (ACKs) are communicated from the receiver to said sender (0009, lines 3-9). Both the systems of Patel and Zhang are directed towards

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increasing efficiency of communication in a network and therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to combine the teachings of Patel to modulate further elements that affect network congestion, as taught by Zhang, In order to improve the efficiency of the system by increasing the amount of factors taking into account when conducting network congestion procedures.

23. As for claims 11, 22, and 38, Patel disclosed all of the limitations described in claims 1, 14, and 27 (respectively), but Patel did not explicitly state wherein said congestion control parameters comprise a slow start threshold. However, Zhang did teach wherein said congestion control parameters comprise a slow start threshold Both the systems of Patel and Zhang are directed towards increasing efficiency of communication in a network and therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to combine the teachings of Patel to modulate further elements that affect network congestion, as taught by Zhang, In order to improve the efficiency of the system by increasing the amount of factors taking into account when conducting network congestion procedures.

24. As for claims 12, 23, and 39, Patel disclosed all of the limitations described in claims 1, 14, and 27 (respectively), but Patel did not explicitly state wherein said congestion control parameters comprise a congestion window value. However, Zhang did teach wherein said congestion control parameters comprise a congestion window value. Both the systems of Patel and Zhang are directed towards increasing efficiency

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of communication in a network and therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to combine the teachings of Patel to modulate further elements that affect network congestion, as taught by Zhang. In order to improve the efficiency of the system by increasing the amount of factors taking into account when conducting network congestion procedures.

25. With respect to claim 26, Patel disclosed a system for controlling network congestion (column 3, lines 24-30), comprising: a device configured for communicating over a network; a processor within said device configured for controlling the sending and receiving of packets over said network; and programming configured for executing on said processor for, sending packets of a sequence in a back-to-back nature in a single burst in which there is no delay between the back of one packet and the beginning of the next packet (column 10, lines 2-12), explicit marking of packets which are sent back-to-back (column 10, lines 5-12), estimating network bandwidth in response to receipt of explicit indications of back-to-back packets or utilizing back-to-back packet estimations (column 9, lines 61-64 and column 13, lines 24-30).

However, Patel did not explicitly state controlling the length of packet trains transmitted by the sender in response to altering the rate at which receipt acknowledgements (ACKs) are communicated from the receiver to said sender as based on estimated network bandwidth. On the other hand, Zhang did teach controlling the length of packet trains transmitted by the sender in response to altering the rate at which receipt acknowledgements (ACKs) are communicated from the receiver to said

sender as based on estimated network bandwidth (0009, lines 3-9). Both the systems of Patel and Zhang are directed towards increasing efficiency of communication in a network and therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to combine the teachings of Patel to modulate further elements that affect network congestion, as taught by Zhang, In order to improve the efficiency of the system by increasing the amount of factors taking into account when conducting network congestion procedures.

26. Claim 25 is rejected under 35 U.S.C. 103(a) as being unpatentable over Patel, in view of Official Notice.

27. As for claim 25, Patel did not explicitly state wherein said marking of packets is performed for every packet sent or performed in response to congestion. However, the examiner gives official notice that Patel's system could mark any amount of packets that it would find sufficient to complete its tasks and therefore, it would have been obvious to modify the teachings of Patel in order to mark every packet, but is likely not done because it would increase the overhead of the system.

Response to Arguments

28. Applicant's arguments with respect to the claims have been considered but are moot in view of the new ground(s) of rejection.

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29. The applicant's arguments against Samuels (Pre-Grant publication no. US 2005/0005024 A1), as being directed towards fragmentation have been considered. In a step to ease prosecution, the use of Samuels has been removed and a new rejection based on Patel has been introduced.

Conclusion

30. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

(a) Davis et al. (Patent No. US 5,838,678), a system for preprocessing streaming data.

31. Any inquiry concerning this communication or earlier communications from the examiner should be directed to JOSEPH L. GREENE whose telephone number is (571)270-3730. The examiner can normally be reached on Monday - Thursday from 9:00 AM to 4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Follansbee can be reached on (571) 272-3964. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JLG

/John Follansbee/

Supervisory Patent Examiner, Art Unit 2451